09/855107

C97C

Patent No. 6,896,867
Request for Cert. of Correction dated October 4, 2005
Attorney Docket No. 1217-010689

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.	:	6,896,867 Confirmation No. 8727
Inventors	:	Tanaka et al.
Issued	:	May 24, 2005
Title	:	Process For Producing A Purified Aqueous Hydrogen Peroxide Solution
Examiner	:	Wayne A. Langel
Customer No.	:	28289

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
FOR PTO MISTAKE (37 C.F.R. 1.322(a))

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ATTENTION: Decision and Certificate of Correction Branch
Patent Issue Division

Sir:

In accordance with 35 U.S.C. §254, we attach hereto Form PTO/SB/44 and a copy of proof of PTO errors and request that a Certificate of Correction be issued in the above-identified patent. The following errors appear in the patent as printed:

Column 4, Line 51, "removed, As" should read -- removed. As --
(See Preliminary Amendment dated May 14, 2001, page 3, last paragraph, Line 6. The comma should be a period.)

Column 6, The last paragraph beginning at Line 35 should end after "as that of the resin." on Line 54. Delete the rest of the paragraph beginning with "shows how many" on Line 54 and ending with "that of the resin." on Line 67. That text is a duplication of the text above.
(See the Amendment filed August 22, 2003, replacement paragraph beginning on page 4 and ending on page 5

Respectfully submitted,

THE WEBB LAW FIRM

By _____

Kent E. Baldauf
Registration No. 25,826
Attorney for Registrants
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1845
Telephone: (412) 471-8815
Facsimile: (412) 471-4094

PTO/SB/44 (04-05)
Approved for use through 04/30/2007. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,896,867
APPLICATION NO. : 09/855,107
ISSUE DATE : May 24, 2005
INVENTOR(S) : Tanaka et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 4, Line 51, "removed, As" should read -- removed. As --

Column 6, The last paragraph beginning at Line 35 should end after "as that of the resin." on Line 54. Delete the rest of the paragraph beginning with "shows how many" on Line 54 and ending with "that of the resin." on Line 67. That text is a duplication of the text above.

MAILING ADDRESS OF SENDER: The Webb Law Firm
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1845

PATENT APPLICATION
Attorney Docket No. 1217-010689

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	
Fujio TANAKA Ichiro SUGAWARA Takashi ADACHI Kazuhisa MINE	: : : :	PROCESS FOR PRODUCING A PURIFIED AQUEOUS HYDROGEN PEROXIDE SOLUTION
Serial No. Not Yet Assigned	:	
Filed Concurrently Herewith	:	

Pittsburgh, Pennsylvania
May 14, 2001

"PA"

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to initial examination, please amend the above-identified patent application as follows:

IN THE SPECIFICATION:

Please amend and delete section headings and amend specification paragraphs as follows. (Pursuant to 37 CFR 1.121, marked-up versions of the amended specification paragraphs are attached.)

On page 1, please amend the section heading "Filed of the invention" to read as follows:

with a hydroxide ion are not removed completely and remain. Therefore a high purity aqueous hydrogen peroxide can not be obtained. Due to the influence of the metal impurities which easily form a complex together with a hydroxide ion and the remaining metal ion impurities, it is difficult to fully prevent the decomposition of hydrogen peroxide. As a result, it is difficult to purify an aqueous hydrogen peroxide solution safely.

On page 9, please delete the section heading "Object of the invention".

On page 9, please delete the first complete paragraph and insert the following replacement paragraph:

An object of the present invention is to provide a purifying process of an aqueous hydrogen peroxide solution in which metal ion impurities and the metal ion impurities are removed as completely as possible.

On page 10, please delete the second complete paragraph and insert the following replacement paragraph:

As described above, the treatments of three-step or four-step of ion exchange resin lead to the production of a high-purity aqueous hydrogen peroxide solution from which ion impurities are removed as completely as possible.

On page 12, please delete the first complete paragraph and insert the following replacement paragraph:

Said purified aqueous hydrogen peroxide solution is preferably obtained by filtrating solid impurities contained in the aqueous hydrogen peroxide solution to which a flocculating agent has been preliminarily added, by a fine filter. By preliminarily adding a flocculating agent into an aqueous hydrogen peroxide solution and filtrating impurities by a fine filter, the insoluble metal ion impurity components which can not be removed by the ion exchange treatment are removed. As a result, metal ion impurities in the aqueous hydrogen peroxide solution can be removed up to a ppt level ($1/10^{12}$) or its vicinities. Further, such

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	09/855,107
Applicants	:	Fujio Tanaka et al.
Filed	:	May 14, 2001
Title	:	Process for Producing a Purified Aqueous Hydrogen Peroxide Solution
Group Art Unit	:	1754
Examiner	:	Wayne A. Langel

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

"A"

AMENDMENT

Sir:

In response to the Office Action of April 22, 2003, Applicants submit herewith a Petition for a One-Month Extension of Time and the following amendments and remarks:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims, which begins on page 9 of this paper.

Remarks/Arguments begin on page 15 of this paper.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 22, 2003.

Diane Paull
(Typed Name of Person Mailing Paper)

Diane Paull 08/22/2003
Signature Date

Please replace the paragraph beginning at page 14, line 22, with the following rewritten paragraph:

--In the process for producing a purified aqueous hydrogen peroxide solution of the present invention, an aqueous hydrogen peroxide solution may be contacted with an adsorption resin before <u>being</u> brought into contact with an ion exchange resin.--

Please replace the paragraph beginning at page 15, line 3, with the following rewritten paragraph:

--As the adsorption resin, a porous resin having no ion exchangeability is used. The porous resin comprises a styrene-divinylbenzene copolymer and has no ion exchange group. The porous resin desirably has a specific surface area which <u>is</u> measured by <u>the</u> BET method using nitrogen gas, in a dry resin of about 200 to 900 m^2/g, preferably 400 to 900 m^2/g. Further, such resins are desirable as having continuous pore of a pore volume in a dry state of about 0.6 to 1.2 ml/g, preferably about 0.1 to 1.1 ml/g as measured by mercury porosimetry method. As the porous resin, a resin which is constituted from polystyrene crosslinked by divinylbenzene and having a network structure can be used. Such adsorption resin includes Amberlite XAD-2 and XAD-4 produced by Rohm & Haas ~~company~~ <u>Company</u> and HP10, HP20, HP21, HP30, HP40, HP50, SP800 and SP900 produced by ~~MITSUBISHI CHEMICAL CORPORATION~~ <u>Mitsubishi Chemical Corporation</u>.--

Please replace the paragraph beginning at page 17, line 2, with the following rewritten paragraph:

--By such treatment process, impurities, especially organic impurities contained in an aqueous hydrogen peroxide solution, can be highly reduced, and <u>the</u> amount of total organic carbon (TOC) in an aqueous hydrogen peroxide solution can be reduced.--

Please replace the paragraph beginning at page 17, line 17, with the following rewritten paragraph:

--The regenerant is used in a volume equivalent to that of the adsorption resin to be treated or more, preferably 2 to 4 times as much ~~as the~~ volume <u>as</u> that of adsorption resin. The method <u>of</u> contacting an adsorption resin and a regenerant is a continuous flow process in which through the column packed with an adsorption resin, a regenerant is passed through upward at a SV (space velocity) of 3 to 6 Hr^{-1} and a BV (Bed volume shows how many times ~~of~~ the volume of the ion exchange ~~it~~ <u>is</u> treated with and the unit is represented by

L/L-R.) of 2 to 4 L/L-R. Further, after the flow of the regenerant, an ultra-pure water washing process comprising passing through ~~of~~ downflow of ultra-pure water and upflow of ultra-pure water is repeated 4 to 9 times to further wash the after-regenerated ion exchange resin. The upflow of ultra-pure water is passed through preferably at a SV of 10 to 30 Hr^{-1} and a BV of 3 to 5 L/L-R, and downflow of ultra-pure water is preferably passed through at a SV of 10 to 30 Hr^{-1} and a BV of 3 to 5 L/L-R. It is preferred that washing is carried out with ultra-pure water in an amount (volume) of 30 to 60 times as much as that of the resin.--

Please replace the paragraph beginning at page 23, line 6, with the following rewritten paragraph:

--As the carbonate ion (CO_3^{2-}) type or bicarbonate ion (HCO_3^-) type anion exchange resin used in the present invention, the above-mentioned anion exchange resin, such as a chloride ion type, converted into a carbonate ion (CO_3^{2-}) type or bicarbonate ion (HCO_3^-) type is used. The anion exchange resin before <u>being</u> converted into a carbonate ion (CO_3^{2-}) type or bicarbonate ion (HCO_3^-) type may ~~not be~~ <u>be not</u> only a chloride ion type but also a hydroxide ion type and a fluoride ion type resin.--

Please replace the paragraph beginning at page 28, line 4, with the following rewritten paragraph:

--The contact of an anion exchange resin and aqueous hydrogen peroxide solution is carried out at a low temperature in view of safety, such as prevention of degradation of the resin by oxidation, prevention of occurrence of cracker gas from hydrogen peroxide and heat generation by decomposition of hydrogen peroxide at the contact. Particularly, in the aqueous hydrogen peroxide solution treated with a H^+ type cation exchange resin, H^+ is sometimes contained more than that generated by dissociation of the aqueous hydrogen peroxide solution, and the H^+ and an anion exchange group CO_3^{2-} or HCO_3^- react neutrally <u>with</u> each other and sometimes heat generation occurs. Further, in contacting the carbonate ion type or bicarbonate ~~type~~ ion type anion exchange resin and the aqueous hydrogen peroxide solution, cracker gas ~~is occurred~~ <u>occurs</u> by decomposition of the aqueous hydrogen peroxide solution and further heat generation by decomposition may occur. For the above-mentioned reasons, in treating an aqueous hydrogen peroxide solution with an anion exchange resin, it is preferred that the aqueous hydrogen peroxide solution has been cooled at a low temperature, 5°C or less.--